Digital technologies are pervasive

• estimated annual U.S. retail trade sales done online doubled in 2012 ($230 Billion), and more than tripled since 2006, now amounting to $389 Billion (2016)

• 86% of Federal Tax filing happen online (2016), up from 81% in 2012

• since 2014, GED testing is exclusively computer-based

• 62% of the internet users say the internet was important or very important for maintaining social relationships in 2016, up from 56% in 2012

Sources: U.S. Census Bureau, Annual Retail Trade Survey; Internal Revenue Service Filing Season Statistics; NPR GED-related stories in January 2015; The 2017 Digital Future Report Center for the Digital Future at University of Southern California Annenberg.
Not all are “plugged in”

• in 2013, 16 percent of U.S. households reported not owning a computer
• 26 percent of U.S. households reported not being connected to the Internet
• individuals that do not have access to the internet anywhere tend to be:
  – aged 65 years and older
  – Blacks and Hispanics
  – less than $25k in household income
  – less than high school completion

Program for the International Assessment of Adult Competencies (PIAAC)

- first large-scale international literacy survey to assess adults’ digital problem solving skills
- conducted in 2011-12 in the United States and 23 other OECD and partner countries
- consisted of background questionnaire and assessment of literacy, numeracy, and problem solving in technology-rich environments domains (here called “digital problem solving”)

PIAAC Digital Problem Solving Domain

• digital problem solving assessment conducted in 19 out of the 24 participating countries, including the United States

• domain extends beyond knowing how to use computer – it reflects an ability to interact effectively with digital information to solve problems

• digital problem solving skills are assessed by simulating tasks commonly performed in computer-based settings, such as email, websites, and spreadsheets
Research Objectives

1: Profile of U.S. adults with low digital literacy
   ◦ demographics
   ◦ literacy and numeracy skills
   ◦ labor force characteristics

2: International comparison of United States on digital literacy and the use of technology
Definition of adults with low digital literacy

Three screening criteria:

• reporting prior computer use
• willing to take the assessment on the computer
• passing a basic computer test
  – ex. using the mouse and highlighting text on the screen

one had to pass all three in order to proceed to the computer-based assessment
Adults with low digital literacy

- focus of this analysis is on the 16 percent of U.S. adults who did not meet the screening criteria necessary to take the test on the computer, i.e. those with low digital literacy
1: Profile of U.S. adults with low digital literacy
• percentage of those without a high school degree was higher among the not digitally literate group than in the digitally literate group
1: Profile of U.S. adults with low digital literacy: gender

- percentage of not digitally literate adults who are men is higher than that in the digitally literate group
1: Profile of U.S. adults with low digital literacy: nativity

- percentage of foreign-born adults is higher in the not digitally literate group compared to the digitally literate group
1: Profile of U.S. adults with low digital literacy: age

- percentage of those who are 45 years old or older is higher in the not digitally literate group compared to the digitally literate group
1: Profile of U.S. adults with low digital literacy: race/ethnicity

- percentages of Hispanic and Black adults are higher among the not digitally literate group compared to the digitally literate group.
1: Profile of U.S. adults with low digital literacy: literacy and numeracy skills

- not digitally literate adults had significantly lower literacy and numeracy scores than digitally literate adults
1: Profile of U.S. adults with low digital literacy: labor force participation

• not digitally literate adults have a lower rate of labor force participation than digitally literate adults
1: Profile of U.S. adults with low digital literacy: employment

- but both digitally literate and not digitally literate adults have similar employment rates
1: Profile of U.S. adults with low digital literacy: occupation

- higher percentage of not digitally literate adults work in unskilled or semi-skilled blue-collar occupations compared to the digitally literate adults
2: International comparison of United States on digital literacy and the use of technology
2: Overall digital literacy in the United States compared to other countries

- percent of adults who are not digitally literate in the U.S. was lower than the international average.
- what is the level of computer-use of the countries that have even lower percentages of not digitally literate?
2: U.S. adults use of technology compared to adults in other countries

- Norway, the Netherlands, Denmark and Sweden had the highest percentage of adults using computer in everyday life.
- Japan, Poland and Slovak Republic had the lowest percentage of adults using computer in everyday life.
2: U.S. adults use of technology compared to adults in other countries

- A larger portion of U.S. adults use computers at work compared to adults internationally.
- But a smaller proportion of U.S. adults use computers in everyday life compared to adults internationally.
Summary of Results:

• low digitally literate adults in U.S. tend to be less educated, male, 45 years old or older, Black or Hispanic, have lower literacy and numeracy scores, have lower labor force participation rates and tend to work in lower-skilled jobs

• a smaller proportion of adults in U.S. have low digital literacy than on average internationally

• internationally, there is a negative relationship between percentage of adults using computer in everyday life and the percentage of low digitally literate adults
Policy Implications:

• targeted interventions:
  – reflecting digital literacy needs of older adults, i.e. in the later stages of their working years, in digital literacy course offerings and curricula;
  – incorporating digital literacy skills into other basic skills interventions;
  – more funding for those not in the workforce with the aim of improving digital literacy and increasing access to computers in everyday life

• focus on increasing use and proficiency with technology in everyday life
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THANK YOU